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PAUL WEISS and ROGER W. SPERRY. Department of Zoology, The University of Chicago, Chicago, Ill. Unmodifiability of muscular coordination in the rat, demonstrated by muscle transposition and nerve crossing.

The motion pictures illustrate the functional performance of rats with hind legs operated as follows: 1, tendons of plantar flexors and dorsi-flexors of foot crossed, other shank muscles excised; 2, nerves of plantar flexors and dorsi-flexors crossed; 3, operations 1 and 2 combined. Operation 1 produced reversal of all foot movements, both reflex and "spontaneous," without any sign of "reeducation" even after prolonged training (over one year). Operation 2 had similar effects, the transposed nerves obviously having passed the phase of reversible "modulation" (P. Weiss). Operation 3, involving double reversal of sense of foot movements, led again to correct use of limb.